# Department of Computing

**CS-343: Web Technologies**

**Class:** BSCS-13E

# Lab 10: Adding interactivity in React

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**Lab 10: Adding interactivity in React**

This is a React scenario-based lab task set. The goal is to reinforce React concepts through a hands-on Event Planner app.

## Scenario: Event Planner App

You're building a small Event Planner app where users can:  
- Add, update, and remove guests from a list  
- RSVP guests  
- Toggle between confirmed/unconfirmed  
- See a live UI update based on interactions

## Hour 1: User Interactions & State Basics

***Goal: Learn to handle user events and manage basic component state.***

Tasks:

1. Create a `GuestForm` component:  
 - Input fields: Name, Email  
 - A button to add a guest  
 - Handle input using `useState`  
 - On submission, log the form data

2. Create a `GuestList` component:  
 - Render a list of guests (start with a static array)  
 - Add a “Confirm” button to each guest  
 - Use `useState` in the parent to manage guests  
 - Use props to send a callback to update confirmation

***Concepts Covered:***

- Handling user-initiated events (`onClick`, `onChange`)  
- Basic `useState` usage  
- Props and event callbacks

## Hour 2: Deep Dive into State Updates & Batching

***Goal: Understand how React processes state changes and batching.***

Tasks:

3. Introduce RSVP tracking:  
 - Add a boolean `rsvp` field to each guest object  
 - Use a toggle button to switch RSVP status  
 - Update the object in state immutably

4. Display RSVP summary:  
 - Show total guests, confirmed, and unconfirmed  
 - Add multiple state updates when toggling RSVP  
 - Demonstrate how updates are batched

5. Debug delayed state update issue:  
 - Console log state immediately after setting it  
 - Observe how state doesn’t change immediately  
 - Use `useEffect` to respond to changes

***Concepts Covered:***

- Two-phase React rendering  
- Why state doesn’t update immediately  
- Batching state updates  
- Updating objects in state

## Hour 3: Working with Arrays & Final Touches

***Goal: Manage complex state involving arrays and wrap up the app logic.***

Tasks:

6. Add Remove Guest feature:  
 - Button on each guest to remove them from the list  
 - Filter the array to remove the guest  
 - Ensure UI updates accordingly

7. Update Guest Info:  
 - Add “Edit” mode for each guest  
 - Allow name/email changes  
 - Update the array of guests immutably

8. Enhance UX:  
 - Add conditional rendering (e.g. show message if no guests)  
 - Style confirmed guests differently

***Concepts Covered:***

- Updating arrays in state (add, remove, edit)  
- Conditional rendering  
- Best practices with immutability